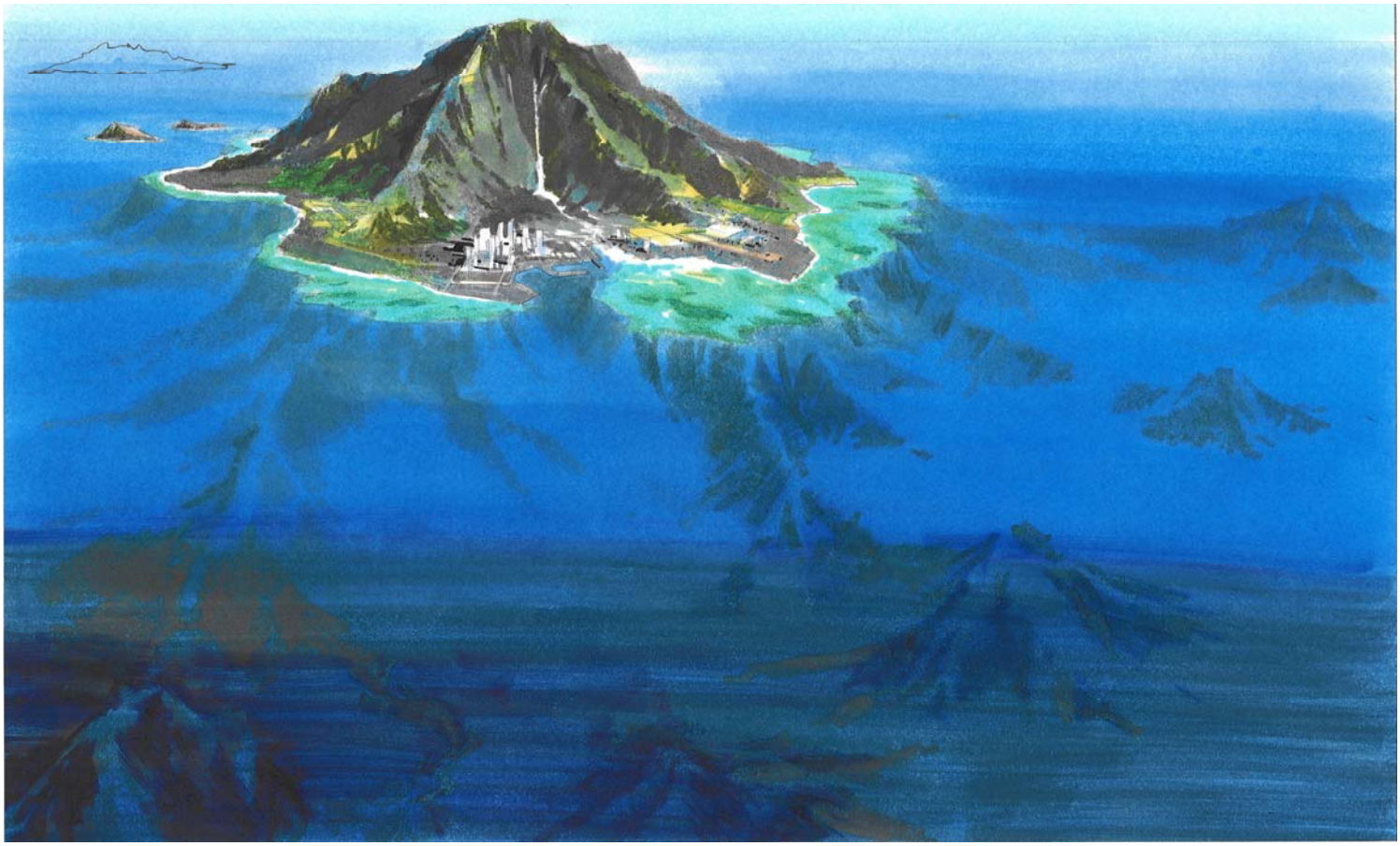
Draft Programmatic Environmental Impact Statement

Towards an Ecosystem Approach for the Western Pacific Region: From Species-based Fishery Management Plans to Place-based Fishery Ecosystem Plans



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Abstract: This document analyzes the impacts on the human environment resulting from step one of the implementation of an ecosystem approach to fisheries management in the Western Pacific Region (American Samoa, Guam, Hawaii, the Commonwealth of the Northern Mariana Islands, and the U.S. Pacific Remote Island Areas[1]). The alternatives analyzed in this document are linked to the following five issues: the establishment of fishery ecosystem plan boundaries; the determination of appropriate management unit species; modifications to the Council's advisory structure; the establishment of and participation in Ocean Council type groups to foster regional coordination; and the participation of the Council in international fora such as meetings and workshops with neighboring nations. The objective of the Federal action considered in this document is to take a practical, timely step towards an ecosystem approach, which fosters management that is specified geographically, adaptive, takes account of ecosystem knowledge and uncertainties, considers multiple external influences, and balances diverse social objectives.

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[1]The remote island areas include Baker Island, Howland Island, Jarvis Island, Johnston Atoll, Kingman Reef, Wake Island, Palmyra Atoll, and Midway Islands. Although physically located in Hawaii, Midway is considered part of the PRIAs because it is not a part of the State of Hawaii.

EXECUTIVE SUMMARY

Purpose and Need

On international, national, and local levels, institutions and agencies tasked with managing marine resources are moving towards an ecosystem approach to fisheries management. The National Oceanic and Atmospheric Administration (NOAA) defines an ecosystem approach as "management that is adaptive, specified geographically, takes account of ecosystem knowledge and uncertainties, considers multiple external influences, and strives to balance diverse social objectives" (NOAA 2004). The Food and Agriculture Organization of the United Nations provides that the purpose of an ecosystem approach to fisheries "is to plan, develop and manage fisheries in a manner that addresses the multiple needs and desires of societies, without jeopardizing the options for future generations to benefit from a full range of goods and services provided by marine ecosystems" (Garcia et al. 2003).

The Council has been developing five place-based Fishery Ecosystem Plans (FEPs) to replace the existing species-based Fishery Management Plans for fisheries in the Western Pacific Region. Because fishery scientists and managers recognize that a comprehensive ecosystem approach to fishery management must be implemented through an incremental and collaborative process, a multi-step approach is being used to develop and implement the FEPs. To be successful, this will require increased understanding of a range of issues including biological and trophic relationships, ecosystem indicators and models, and the ecological effects of non-fishing activities on the marine environment. In addition, the organizational structure for developing and implementing Fishery Ecosystem Plans is broader than for Fishery Management Plans and explicitly incorporates the community input and local knowledge that is essential to good resource management. At this time the Council is undertaking its first step to implement the framework necessary to change from species-based fishery management plans to place-based FEPs. Specifically, the measures being considered by the Council at this time would establish Fishery Ecosystem Plans with appropriate boundaries, management unit species and advisory structures. The measures being considered would reorganize the current fishery regulations by geographic area, but would not result in substantive changes to the existing regulations. Future fishery management actions are anticipated to incorporate additional information as it becomes available. An adaptive management approach will be used to further advance the implementation of ecosystem science and principles.

Based on the preferred alternatives in this programmatic environmental impact statement (DPEIS), the Federal action that would be implemented is the realignment of the existing fishery regulations contained in the Council's five current species-based Fishery Management Plan (FMP) regulations into geographically-based Fishery Ecosystem Plan (FEP) regulations, with no substantive changes to current fishing regulations. This action will establish a place-based institutional structure upon which future fishery ecosystem management measures will be built. The development and implementation of future FEP amendments will comply with all applicable laws.

Alternatives

The alternatives analyzed in this document are linked to the following five issues: 1) boundaries for Fishery Ecosystem Plans in the Western Pacific Region, 2) lists of Management Unit Species (MUS) for each FEP 3) the Council's advisory process to reflect place-based FEPs, 4) regional coordination, and 5) international coordination. Issues 1 and 2 are considered the Federal action in this document because they have regulatory effect and involve the reorganization and consolidation of current FMP regulations into place-based FEP regulations. Issues 3, 4, and 5 are non-regulatory (i.e. they have no regulatory effect) and their consideration is included for identifying an appropriate place-based advisory structure as well as for planning purposes related to the Council's participation broader ecosystem initiatives. In general, each issue's alternatives range from low (no action or status quo) to high (implementation of a detailed and specific approach to the issue). The following table presents the alternatives considered in detail within this draft programmatic EIS.

Table 1: Alternatives Considered in Detail

Issue: Alternative	Description
Issue 1: FEP Boundaries	***Regulatory***
Alternative 1A	No Action - do not delineate or implement FEP boundaries
Alternative 1B	Delineate and implement separate FEPs surrounding each archipelago
Alternative 1C (Preferred)	Delineate and implement four separate demersal FEPs surrounding each archipelago as well as a single Pelagic FEP that includes the entire region (Preferred)
Alternative 1D	Delineate and implement separate FEPs for each biogeographic and pelagic zone
Issue 2: List of MUS	***Regulatory***
Alternative 2A	No Action – do not change the current MUS lists
Alternative 2B (Preferred)	Define FEP MUS as those current MUS that are believed to occur within each FEP boundary (Preferred)
Alternative 2C	Define FEP MUS as those current MUS plus incidentally caught and associated species that are known to occur within each FEP boundary
Alternative 2D	Define FEP MUS as those current MUS plus incidentally caught and associated species that are believed to potentially occur within each FEP boundary
Issue 3: Council Advisory Structure	***Non-Regulatory***
Alternative 3A	No Action - do not change the current advisory structure
Alternative 3B	Add a single FEP Plan Team to the current advisory structure
Alternative 3C	Replace the current FMP Plan Teams, Advisory Panels and four Standing Committees with FEP Plan Teams, Advisory Panels and Standing Committees

Alternative 3D (Preferred)	Replace the current FMP Plan Teams, Advisory Panels and four Standing Committees with FEP Advisory Panels, FEP Standing Committees and two FEP Plan Teams (Preferred)
Issue 4: Regional Coordination	***Non-Regulatory***
Alternative 4A	No Action - do not establish Ocean or Ecosystem Councils
Alternative 4B (Preferred)	Establish Regional Ecosystem Council Committees (Preferred)
Alternative 4C	Participate in and support existing Ocean Council type groups
Alternative 4D	Establish independent Regional Ecosystem Councils
Issue 5: International Coordination	***Non-Regulatory***
Alternative 5A	No Action- continue to participate in international management fora
Alternative 5B (Preferred)	Increase participation in international management fora and establish meetings/workshops with neighboring nations
Alternative 5C	Do not participate in international management fora

Reasons for choosing the preferred alternatives

The preferred alternatives would together implement a well-rounded first step towards an ecosystem approach to fisheries management in the Western Pacific Region. The main function of this step is to shift from species-based FMPs to place-based FEPs. Establishing theses place-based FEPs will provide the institutional framework upon which future fishery ecosystem management measures will be built. Reorganizing the Councils advisory structure to match a place-based framework as well establishing Regional Ecosystem Council Committees and participating in international meetings and discussions with neighboring nations will provide mechanisms for the full range of fisheries' impacts and other activities on marine ecosystems to be addressed in a manner which coherently considers each area's biological resources, physical conditions, socioeconomic needs and cultural traditions. In addition, shifting the management focus from species to a geographically defined place inherently recognizes the value of sustainable marine resources for island communities as well as the needs of various user groups.

The Council presently manages U.S. Pacific island-based pelagic fisheries and four demersal fisheries (bottomfish and seamount groundfish, crustaceans, precious corals and coral reef resources) under FMPs. While the 1996 Sustainable Fishery Act amendments to the Magnuson-Stevens Fishery Conservation and Management Act (MSA) did require regional fishery management councils to consider fishery impacts on other species not managed under FMPs (e.g. essential fish habitat), there are several limitations (discussed below) of the current management framework (i.e. species-based FMPs) that hinders the Council in conserving a wider range of marine resources as well as protecting marine ecosystems in which fisheries operate.

Current stock assessments generally do not explicitly recognize the significant natural variability in marine resources and habitats, although some models do incorporate spatial and temporal environmental effects. Under place-based FEPs, stock assessments will increasingly and

explicitly separate environmentally-driven resource variability (e.g. inter-annual, decadal, long-term ocean regime shifts) from fishery-driven and habitat-driven effects on target stocks and other components of ecosystems, thus improving fishery science and management.

In addition, the majority of current monitoring under FMPs accounts for major resource removals by fishing, but not by other sources such as coastal development, which has destroyed or severely degraded inshore fish habitat and associated stocks around the more heavily populated islands of the U.S. Pacific. Through regional coordination efforts under place-based FEPs, all sources of resource removal, including those related to shoreline modification, waste discharge, watershed erosion, storm runoff, and other terrestrial activities will be considered. It is anticipated that FEP-based monitoring will ultimately include ecosystem indicators and models which take into account non-fishing uses, their impacts on resources, and even the tradeoffs among different user groups who depend on the same resource.

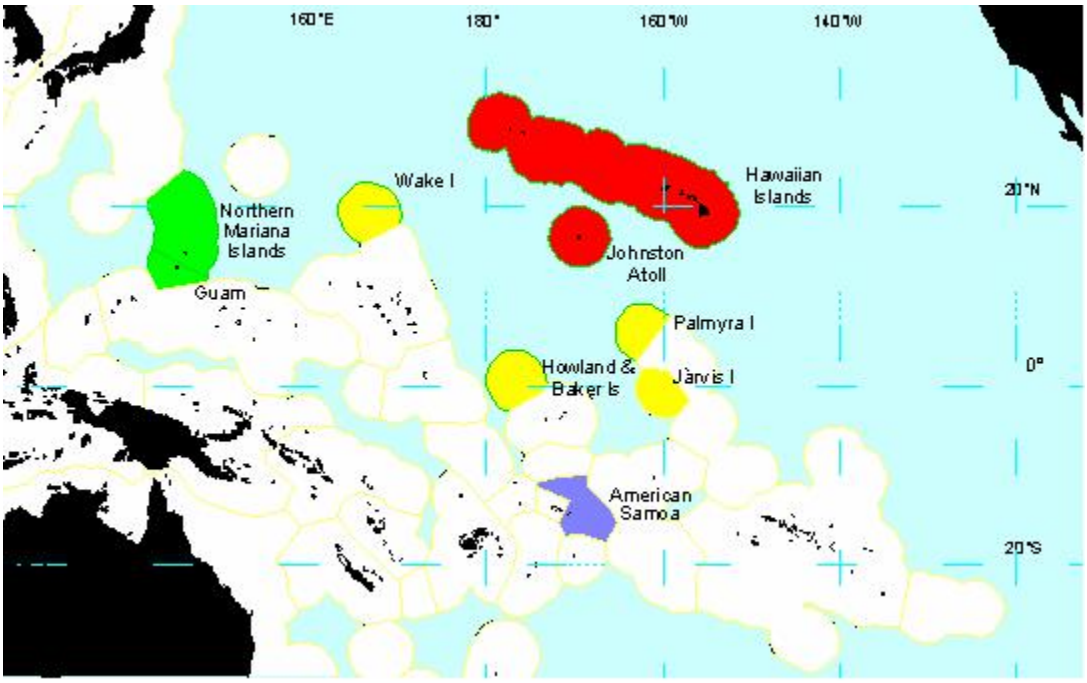
The preferred alternatives would promote a holistic view of marine resources through increased examination of meta-population resource dynamics and linkages between upland watershed activities, coastal habitats, nearshore waters, and oceanic variability. This in turn will lead to enhanced understanding and improved management of the relationships between different fish stocks and users of those stocks. In general, species-based FMPs focus on individual stocks of fish or related species and the people who harvest them. However, fish and fishermen do not act in isolation, and fishermen may be active in several fisheries targeting different resources seasonally or even over various years. Furthermore, the harvests of one species often influence the dynamics of fish markets (and subsequent fishing effort) for others. Place-based FEPs will provide fishery managers with comprehensive information on all fishery impacts within a given area and allow improved decision making with less unintended consequences due to poorly understood connections. By operating within an ecosystem context, fishery managers will also be better positioned to anticipate likely physical and biological responses to changing environmental conditions and to determine appropriate management actions to forestall adverse impacts to marine ecosystems, rather than reacting to changes after they occur. In addition, greater stability and predictability is more likely when resources are considered together rather than as independent units.

The ecosystem approach under the preferred alternatives is also anticipated to improve the management of coastal resources at both Federal and local levels through changes in the structure of resource management plans and the process by which these plans are developed and implemented. Because the organizational structure for developing and implementing a FEP is broader than for an FMP and inherently incorporates more local community input, it is more likely to make good use of local knowledge and experience in management strategies and tactics. This will strengthen cooperation and compliance with management measures which is especially important in the Western Pacific Region where enforcement capabilities are often low.

The southern and western Pacific Ocean is dotted with thousands of islands governed by several nations. American Samoa, for example, is surrounded by the exclusive economic zones (EEZs) of five independent nations and the Pacific Remote Island Areas (Wake, Howland/Baker, Jarvis, Palmyra) are part of larger archipelagic island chains. Several targeted pelagic species are

considered highly migratory and management of these resources are increasingly becoming international issues. As marine ecosystems are generally considered "open" systems and large scale changes can be observed within smaller units, international coordination as well as coordination between the Council and neighboring nations of island areas in the Western Pacific Region will be a necessary component of the successful implementation of an ecosystem approach to fisheries management.

Western Pacific Region



Proposed Mariana Archipelago FEP

Proposed Hawaii Archipelago FEP

Proposed Pacific Remote Island Areas FEP

Proposed American Samoa Archipelago FEP

Proposed Pacific Pelagic FEP (applies within all EEZ waters and high seas)